

REMARKS

The Specification and Claims have previously been reviewed for typographical and grammatical errors, and those that were discovered have been fixed as part of the response to the first Office Action (Amendment "A").

As an aid in citing locations in a reference, let us adopt the following notational convention: lines 4 through 23 in col. 7 of Luk are referred to as Luk @ 7:4 - 23. When it is clear that Luk is the reference under consideration, we can simply say 7:4 - 23, and if only line 10 is needed, 2:10. Also, Luk @ 7:4 - 8:41 will be appreciated as indicating line 4 of col. 7 through line 41 of col. 8.

The Drawings were objected to. A new set of formal Drawings is included with this Response, under cover of a separate Letter To The Draftsman.

Claims 4-9 were object to as depending from a rejected claim, but were said to be allowable if re-written to avoid that. This conditional allowance of Claims 4-9 is noted with appreciation, but at present applicants prefer to rely upon a combination of clarifying amendments and argument to overcome the existing rejections.

Claims 1-3 were rejected under 35 USC 103(a) over Luk (USP 6,055,661) in view of Hii (USP 5,422,892). The Examiner asserts that Luk substantially teaches the claimed invention, save that it is not shown as being used with memories; Hii is cited for that. This rejection is traversed for the following reasons.

Luk @ 5:43 - 6:4 describes the fundamental nature of his operation. He applies a test signal to both the DUT and the KGIC (Known Good IC) and then compares the results. This is further described at 6:5-7 as an "on-the-fly" concept of testing. From that, as well as from an inspection of his Figures 1 and 2, it is clear that this is a stimulus-compare/stimulus-compare/... type of operation. It is performed in "real time", as it were, by comparison circuit 150, and there is nothing to allow for a later decision about correct operation. In fact, a main thrust of the rest of his Figures appears to involve suitable matching delays to allow comparison of results as they occur, so that the comparison is over with, the better to be ready for the next stimulus/compare cycle. This mode of operation is very similar to that of the previously cited prior art, and is not at all suggestive of the claimed method.

Hii also describes a stimulus-compare/stimulus-compare/... type of operation, although it is for testing memories. See 2:64-3:7, especially the part at 3:1-4 about "In the next step ...". What Hii is really up to is well set out in his Summary, and in more detail at 3:27-4:7. The upshot of his idea is to store the same stuff in multiple bit locations having the same address, and then compare those multiple instances for equality before asking if it is even the correct data, thus freeing up existing comparison resources within the tester for use with other DUTs. He NEVER suggests anything but the "send the address ... send the signal to compare" manner of operation he describes in the aforementioned passages.

As explained in the Specification (pages 14, 39 and 40) and in the previous response, applicants' Claims are directed to a stimulus/stimulus/stimulus/.../check-the-end-result method of operation. In this connection, it is noted that, as the Examiner stated, Luk does not mention memories; his KGIC is some other kind of IC. Now, it is true that big ICs, especially microprocessors and ASICs can have internal "states-of-being" that are reached by certain sequences of stimuli (e.g., being in the middle of a chain of indirectly addressed memory accesses, or poised to do an instruction fetch). But these internal states are NOT comparable to the claimed stored test pattern data! (It would seem that memory is needed to store data ...) So, Luk does not "substantially teach" or suggest the claimed invention, and citing Hii who tests memories does not combine with Luk to produce any kind of functional system (what is Luk supposed to do with Hii's "duplicated test data"-- Hii @ 3:5) let alone suggest the claimed method. All the more so, since Hii also does not escape from the conventional stimulus-compare/stimulus-compare/... type of operation.

To assist in appreciating the difference between this conventional mode of operation and that claimed by applicants, Claim 1 has been amended in step (a) to emphasize that:

"...the stored test pattern data in each memory being an end result remaining stored therein after the conclusion of the application of the entire sequence of transmit vectors;"

Claim 1 was also amended in step (b) to emphasize that step (a) be concluded prior to performing step (b).

Thus, applicants' Claims are directed to a stimulus/stimulus/stimulus/.../check the end result method of operation that is not shown or suggested by Luk or Hii, whether taken singly or in combination.

Thus, on the basis of the arguments set out above, claims 1-9 are believed to comply with 35 USC 103, and the Examiner is respectfully, but earnestly, urged to withdraw the rejections.

THEREFORE, re-examination is requested, and favorable action is respectfully solicited.

Respectfully submitted,

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